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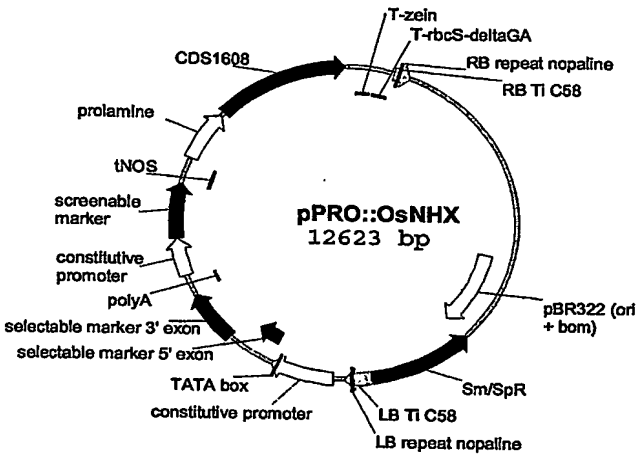


FIGURE 1

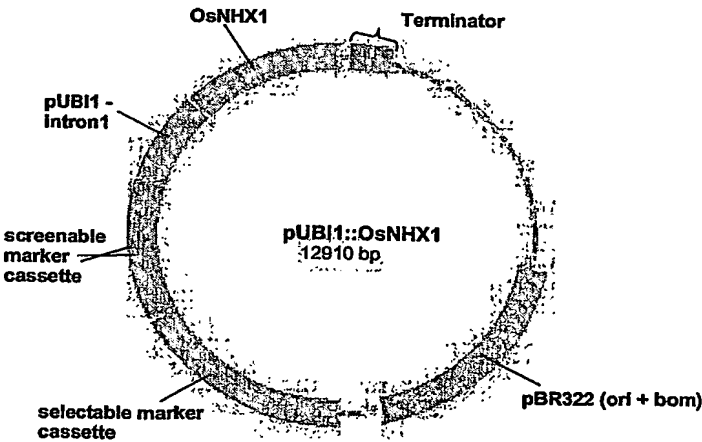


FIGURE 2

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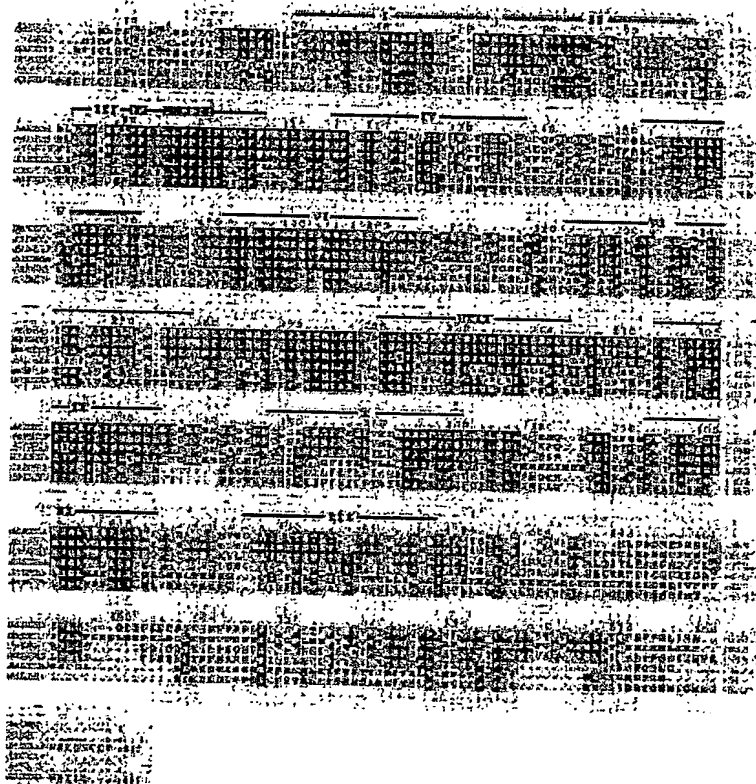


FIGURE 3

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SEQ ID NO 1: coding sequence for *Oryza sativa* NHX1 protein

GAGAAGAGAGTTTGTAGCGAGCTCGCGGAATGCGAAGCCAACCGAGAGAGGTCTCGA
TACCAAATCCCGATTTCTCAACCTGAATCCCCCCCCCAGTTCCCTCGTTTCAATCTGTT
CGTCTGCGAATCGAATCTTTGTTTTTTTTCTCTAATTTACCGGGAATTGTCGAATT
AGGCATTACCAACGAGCAAGAGGGGAGTGGATTGGTTGGTTAAAGCTCCGCATCTTGC
GGCGGAAATCTCGCTCTCTCTGCGGTGGGTGGCCGGAGAAAGTCGCCGCCGTGAGG
CATGGGGATGGAGGTGGCGCGCGGGCTGGGGCTCTGTACACGACCTCCGACTACG
CGTCGGTGGTGTCCATCAACCTGTTCTGTCGCGCTGCTCTGCGCCTGCATCGTCTCGGC
CACCTCCTCGAGGAGAATCGCTGGGTCAATGAGTCCATCACCGCGCTCATCATCGGGCT
CTGCACCGCGTGGTGTCTTGTCTGATGACCAAAGGGAAGAGCTCGCACTTATTCGTCT
TCAGTGAGGATCTCTTCTTCATCTACCTCCTCCCTCCGATCATCTTCAATGCAGGTTT
CAGGTAAAGAAAAAGCAATTCTTCCGGAATTTTCATGACGATCACATTTATTTGAGCCGT
CGGGACAATGATATCCTTTTTCACAATATCTATTGCTGCCATTGCAATATTCAGCAGAA
TGAACATTGGAACGCTGGATGTAGGAGATTTCTTGCAATTGGAGCCATCTTTCTGCG
ACAGATTCTGCTGCACATTGCAGGTCTCAATCAGGATGAGACACCTTTTGTACAG
TCTGGTATTTCGGTGAAGGTGTTGTGAACGATGCTACATCAATGTGCTTTTCAACGCAC
TACAGAACTTTGATCTTGTCCACATAGATGCGGCTGTCTGTTCTGAAATTCCTGGGGAAC
TTCTTTTATTTATTTTGTGAGCACCTTCTTGGAGTATTGCTGGATTGCTCAGTGC
ATACATAATCAAGAAGCTATACATTGGAAGGCATTCTACTGACCGTGAGGTGCCCCCTA
TGATGCTCATGGCTTACCTTTTCATATATGCTGGCTGAGTTGCTAGATTGAGCGGCATT
CTCACCGTATCTTCTGTGGTATTGTAATGTACATTACCTTGGCATAACGTCACAGA
GAGTTCAAGAGTTACAAACAAGCACGCAATTGCAACTCTGTCTTTCATTGCTGAGACTT
TTCTCTTCTGTATGTTGGGATGGATGCATTGGATATTGAAAAATGGGAGTTTGCCAGT
GACAGACCTGGCAAATCCATTGGGATAAGCTCAATTTGCTAGGATTGGTTCTGATTGG
AAGAGCTGCTTTTGTATTCCCGCTGTCTGTTCTTGTGCAACCTAACAAAGAAGGCACCGA
ATGAAAAATAACCTGGAGACAGCAAGTTGTAATATGGTGGGCTGGGCTGATGAGAGGA
GCTGTGTCGATTGCTCTTGTCTTCAATAAGTTTACAAGATCTGGCCATACTCAGCTGCA
CGGCAATGCAATAATGATCACCAAGCACCATCACTGTCTGTTCTTTTAGCACTATGGTAT
TTGGGATGATGACAAAGCCATTGATCAGGCTGCTGTCTACCGGCTCAGGCCATCTGTCTC
ACCTCTGAGCCTTCATCACCAAGTCCCTGCATTCTCTCTCTGACAAAGCATGCAAGG
TTCTGACCTCGAGAGTACAACCAACATTGTGAGGCCTTCCAGCCTCCGGATGCTCCTCA
CCAAGCCGACCCCACTGTCTCACTACTGCGCAAGTTGACGACGCGCTGATGCGA
CCGATGTTTGGCGGGCGCGGTTCTGTGCCCTTCTCCCTGGATCACCAACCGAGCAGAG
CCATGGAGGAAGATGAACAGTGCAAGAAATGAGAATGGAATGGTTGATGAGGAGAATA
CATGTAAATGTGACAGCAAAAGAGAGAAGGCAAGTTTGGGTTTGTAGAGTTTGGCTG
CTGCTAATGAGTTGTTGATAGTGCCTATATTTCTCAGAACTTCAGATGGTGCCTCACCA
AGGCCTAAGAGCCAGGAGGACCTTCTGATAATGGTTCCGGATGATTGGTTTGTCTGTC
AGGATGAACCCCTAGTGAGTGACACAGGGTGATGTGCTCCGACAACCTGTAAATTTGTGTA
GATTAACAGCCCCATTTGTACCTGTCTACCATCTTAGTTGGCGGGTGTCTTTCTCTAG
TTGCCACCTGCATGTAAATGAAATCTCCGCCAAAATAGATTGTGTGTATAATAAT
TTTGCTTGTTG

FIGURE 4

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SEQ ID NO 2: *Oryza sativa* NHX1 protein

MGMEVAAARLGALYTTSDYASVVSINLFVALLCACIVLGHLLLEENRWVNESITALIIGL
 CTGVVILLMTKGKSSHLFVSEDLFFIYLLPPIIFNAGFQVKKQPFERNFMTITLFGAV
 GTMISFFTISIAAIAIFSRMNIGTLDVGDFLAIGAIFSATDSVCTLQVLNQDETFFLYS
 LVFGGVNDATSIIVLENALQNFDLVHIDAAVVLKFLGNFFYLFLSSTFLGVFAGLLSA
 YI IKKLYIGRHSTDREVALMMLMAYLSYMLAELLDLGILTVFFCGIVMSHYTWNHVTE
 SSRVTTKHAFATLSFIAETFLFLYVGM DALDIEKWEFASDRPKSIGISSILLGLVLIG
 RAAFVPLSFLSNLTKKAPNEKI TWRQQVVIWAGLMRGAVSIALAYNKFTRSGHTQLH
 GNAIMITSTITVVLFTMVFGMMTKPLIRLLLPASGHPVTSEPPSPKSLHSPLLTSMQG
 SDLESTTNIVRPSSLRMLLT KPTHTVHYIYWRKFDDALMRPMPFGRGFVPFSPGSPTEQS
 HGG R

SEQ ID NO 3: *Arabidopsis thaliana* Nhxl

ATGTTGGATTCTCTAGTGTGAAACTGCCTTCGTTATCGACATCTGATCAGCCTTCTGT
 GGTTCGTTGAATCTCTTTGTGCACTTCTTTGTGCTTGTATTGTTCTTGGTCATCTTT
 TGGAAAGAGAATAGATGGATGAACGAATCCATCACCGCCTTGTGATTGGGCTAGGCACT
 GGTGTTACCATTTTGTGATTAGTAAAGGAAAAAGCTCGCATCTTCTCGTCTTTAGTGA
 AGATCTTTTCTT CATATATCTTTTGCCACCCATTATATTCAATGCAGGGTTTCAAGTAA
 AAAAGAAGCAGTTTTTCCGCAATTTTGTGACTATTATGCTTTTGGTGCTGTTGGGACT
 ATTATTTCTTGCACAATCATATCTCTAGGTGTAACACAGTCTCTTAAGAAGTTGGACAT
 TGGAACCTTTGACTTGGGTGATTATCTTGCTATTGGTGCCATATTGCTGCAACAGATT
 CAGTATGTACACTGCAGGTTCTGAATCAAGACGAGACACCTTTGCTTTACAGTCTTGTA
 TTCGAGAGGGTGTGTGATGATGCAACGTGCTTGTGGTCTTCAACGCGATTGAGAG
 CTTTGATCTCACTCACCTAAACCAAGCTGCTTTTTCATCTTCTTGGAACTTCTTGT
 ATTTGTTTCTCCTAAGTACCTTGTCTTGGTGCTGCAACCGGTCTGATAAGTGCGTATGTT
 ATCAAGAAGCTATACCTTTGGAAGGCACTCAACTGACCGAGAGGTTGCCCTTATGATGCT
 TATGGCGTATCTTTCTTATATGCTTGTCTGAGCTTTTCGACTTGAGCGGTATCCTCACTG
 TGTTTTCTGTGGTATTGTGATGTCCCATACACATGGCACAATGTAACGGAGAGCTCA
 AGAATAACAACAAGCATACCTTTGCAACTTTGTCAATTTCTTGGGAGACATTTATTTT
 CTTGTATGTTGGAATGGATGCCCTTGGACATTGACAAGTGAGATCCGTGAGTGACACAC
 CGGGAACATCGATCGCAGTGAGCTCAATCCTAATGGGTCTGGTCTATGTTGGAAGAGCA
 GCGTTCGTCTTTCCGTTATCGTTTCTATCTAACTTAGCCAAGAAGAATCAAAGCGAGAA
 AATCAACTTTAATGACAGGTTGTGATTGGTGGTCTGGTCTCATGAGAGGTGCTGTAT
 CTATGGCTTTGCATACAACAAGTTTACAAGGCCGGGCACACAGATGTACGCGGGAAT
 GCAATCATGATCACGAGTACGATAACTGTCTGTCTTTTAGCACAGTGGTGTGTTGGTAT
 GCTGACCAAACTCATAGCTACCTATTACCGCACCAGAACGCCACCACGAGCATGT
 TATCTGATGACAACACCCCAAAATCCATACATATCCCTTGTGGACCAAGACTCGTTTC
 ATTGAGCCTTCAGGGAACCAATGTGCTCGGCTGACAGTATACGTGGCTTCTTGAC
 ACGGCCCCACTCGAACCGTGCACTTACTACTGGAGACAATTTGATGACTCCTTCATGCGAC
 CCGTCTTTGGAGGTCGTGGCTTTGTACCTTTGTTCAGGTTCTCCAACCTGAGAGAAAC
 CCTCTGATCTTAGTAAGCT

FIGURE 4 (continued)

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SEQ ID NO 4: *Arabidopsis thaliana* Nhxl protein

MLDSLVSILPSSLSTSDHASVVALNLFVALLCACIVLGHLLERNRMNESITALLIGLGT
 GVTILLISLKGSSHLLVFSEDLFFIYLLPPIIFNAGFQVKKQFFRNFTIMLFGAVGT
 IISCTIISLGVTOFFKKLDIGTFDLGDYLAIGAIFAATDSVCTLQVLNQDETPLYSLV
 FEGGVVNDATSVVVFNAIQSFDLTHLNHEAAFHLLGNFLYLFLSLTLLGAATGLISAYV
 IKKLYFGRHSTDREVALMMLMAYLSYMLAELFDLSGILTFFVFCGIVMSHYTWHNVTESS
 RITTKHTFATLSFLAETFIPLYVGMALDIDKWRVSVSDTPGTSIAVSSILMGLVMVGRV
 AFVFPFLSFLSNLAKKNQSEKINFNMQVVIWWSGLMRGAVSMALAYNKFTRAGHTDVRGN
 AIMITSTITVCLFSTVVFGLTKPLISYLLPHQNATTSMLSDDNTPKSIHPLLDQDSF
 IEPGSGNHVPRPDSIRGFLTRPRTVHYWYRQFDDSFMRPVFGGRGFVFPVPGSPTERN
 PPDLSKA

SEQ ID NO 5: *Medicago sativa* Na⁺/H⁺ antiporter

ACGGCGGGAATCCAACCCATTGTATAACAACAACCTACCGGAGATATATAATATCTCTCT
 CCTCTAAATAGAAATATCGACAGAGTGACTCAACAAGATTATTAGGAGTGATAATCTTCC
 ACGGCAGCTCAAAAACAACAACATCCGATTATCATCATCACGCGTTCGCGAGAGATACT
 TGTGTTGATGAGATCAGAAGGTTCTTAAATGGACAGCTCAGAAACATAAATATCTGGG
 ATTCAATTATTACTACTGGACTTTGAAATTTGGAAATTCAGCAATAATCTCAATTTGTTCT
 TTAATCTGCTTTTGAAATTTGTGGAGGTTGGACGACATCATGGCTATTGAAATGTCTT
 CTATTGTTTCAAACTATCAATGTTATCCACTTCCGATCATGCTTCTGTTGTTCTATG
 AACTTGTGTTGGGCACTTCTGTGTGCTTGTATGTCTTGGTCATCTTCTCGAGGAGAA
 TCGATGGATGAATGAATCCATCACTGCCCTTTTGATTGGTATTGCACTGGTGATGTA
 TTTTGTGTTTAGTGGTGGAAAAAGTTCGCATATTCTGTTTTCAGTGAAGATCTTTTC
 TTTATATACCTTCTGCCGCTTATTATATCAATGCCGGGTTTCAAGTAAAGAAAAAGCA
 GTTTTGTGTCAACTTCATGACTATCAATCATTTGGAGCTATTGGCACATTAATATCTT
 GTGTCAATTATAACCAAGGCTGCTACTTTTGCTTTTAAAGAGGATGGATATTGGGCCACTG
 GAAATCGGCGATTATCTAGCTATTGGAGCAATATTGCGGCAACAGACTCTGTTTGCAC
 ATTGCAGGTGCTAAATCAGGATGAGACACCTTTATTGTATAGTCTGTATTGGGGAAG
 GTGTTGTGAATGATGCTACCTCAGTGGTTCTTTCAATGCAATTCAAAGCTTTGATCTT
 AACCAACTGAACCTTCAATTCGATTGCAATTTCTTGGGCACTTCTGTTATTGTTGT
 AGCAAGCACACTCCTTGGCGTTGTGACAGGTCTGCTCAGTGCCTATGTTATTAAGAGC
 TGTACATTGGCAGGCACTCCACAGATCGTGAGGTTGCTCTTATGATGCTAATGGCATACT
 CTCTCCTATATGCTGGCTGAGTTAACCTATCTGAGTGGCATTCTTACCGTATTCTTTTG
 TGGTATTGTTATGCTCATTATACCTTGGCATAATGTGACGAGAGTTCAAGAATCACTA
 CCAAGCATTCTTTGCTACCTTGTCTTTGTTGCTGAGATCTTTATCTTCTTTATGTT
 GGTATGGATGCCCTGGACATTGAAAAATGGAAGTTGTTAGTGATAGTCTGGAACATC
 TATAGCTGCAAGTTGATATTGTTGGGCTTAATACTTCTTGAAGAGCAGCGTTTGT
 TTCCCTTATCTTCTTATCCAACTTGACTAAAAAATCACAACATCAGAAGATTCTCTTC
 AGACAGCAAGTTATCATTTGGTGGGCTGGTCTTATGAGAGGTGCTGTTTCAATGGCACT
 TGCGTATAATCAGTTCAACATGTCGGGGCATACTCAACTACGTAGCAATGCAATCATGA
 TAACCAGCACCATCACTGTTGCTCTTTTTCAGCACAGTGGTGGTTGGTTGCTGACTAAG
 CCACTCATAAGGCTTCTACTACCTCATCTAAATCACAAGCAGCATGACAACCACAGA
 ATCGACTACTCCAAATCATTCATGTCCTCACTTCTAGGAGATTCCCGAGATTCTGAAG
 CTGATCTTGAAGGCCATGAAATTCACCGACCAACAGCCTTCTGCTTACTATCAACT

FIGURE 4 (continued)

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CCAACTCAGACTGTTTCATCGATTATGGCGAAAGTTTGATGATTCAATCATGCGTCCCTGT
 TTTTGGTGGCAGAGGTTTGTTCCTGTAGAACCTGGCTCACCAAGTGAACGCAATGGTA
 ATCAATGGGGTTGAGAAAAGAAGCCATGAAATGTGTAATATGTGTTGTATACTACGTAT
 GATTGTGAAAAAGTCATGCAACGTGTGTATAATGTATTTATGTCATAAGAACCTAGTAG
 TGAATTTTCTTTAAAAAAAACCTCGTAGTGAATTTTGTGAGCTGTTGAGTAGC
 TAGTATGAGATGGCTTGCCATCTCTGTCTATTATGTAACTACAATATTTTGTAGAT
 TCTCTGAGCCATTACATGTTTGTGTATGTGTCCAAAAAAAAAAAAAAAAA

SEQ ID NO 6: *Medicago sativa* Na⁺/H⁺ antiporter protein

MAIEMSSIVSKLSMLSTSDHASVVSMLNFVALLCACIVLGHLLLENRWMNESITALLIG
 ICTGVVILLFSGGKSSHILVFSEDLFFIYLLPPIIFNAGPQVKKQFFVNFMTITSFGA
 IGTILSCVIITTGATFAFKRMDIGPLEIGDYLAIGAIFAATDSVCTLQVLNQDETPPLY
 SLVFGEGVNDATSVVLFNALIQSFDLNQLNPSIALHFLGNFLYLFVASTLLGVVTGLLS
 AYVIKKLYIGRHSTDREVALMMLMAYLSYMLAELTYLSGILTFFCGIVMSHYTWHNVT
 QSSRITTKHSFATLSFVAEIFIFLYVGMALDIEKWKVSDSPGTSIAASSVLLGLILL
 GRAAFVFPPLSFLSNLTKKSQHKISFRQVVIWWAGLMRGAVSMALAYNQFTMSGHTOL
 RSNAMITSTITVVLFTSTVFGLLTKPLIRILLPHPKITSSMTTTESTTPKSFIVPLL
 GDSRDSEADLEGHEIHRPNSLRALLSTPTHTVHRLWRKFDDSFMRPVFGGRGFVPVEPGS
 PSERNGNQWG

SEQ ID NO 7: *Suaeda maritima* subsp. *salsa* Na⁺/H⁺ antiporter

TTTCAAAAGATTATTGGACTTCAGAAAGTTTGATTTTGTGGAGCTAGAAAGGGTTTCAC
 ATACATTGGACATTAATTTACTTGAATATATATATATTTGTGTGGGTCTTGGATTCCG
 GTGCACAAAGAAATAGGTGAACAATGTTGTACAGTTGAGCTCTTTTTTGCAGTAAG
 ATGGACATGGTTTCGACGTCTGATCATGCTTCGGTTGTTTCGATGAATTTGTTGTGGC
 ACTGTTACGTGGCTGCATTGTAATGGTCATCTTCTCGAAGAGAATCGCTGGATGAATG
 AATCCATTACAGCTTTGCTAATAGTTTATCTACTGGGATTATAATCCTGCTAATTAGT
 GGAGGAAAGAGTTGCGATTGTTGGTCTTCAGTGAAGATCTTTCTTTATATACCTCCT
 TCCACCGATTATATCAATGCGGGGTTTCAGGTGAAAAGAAGCAATTTTCCGCAACT
 TCATTACTATTATTTGTTGGAGCCGTTGGTACATTGGTATCATTCAATCATATCT
 CTTGGTTCAATAGCTATATTTCAAAAGATGGATATTGGTTCGCTGGAGTTAGGGGATCT
 TCTTGCAATTTGGTGCAATATTGCTGCAACTGATTGAGTTGCAATTGCAAGTGCTTA
 ATCAAGATGAGACTCCACTTCTTATAGTCTCGTGTGTTGGTGAAGGTGTCGTCAATGAT
 GCTACATCAGTGGTGTGTTCAATGCAATTCAAAACCTTGACCTCACGCACATTGACCA
 CAGAATTGCCCTTCCAATTTGGTGGCAACTTCTATATTTATTTTTCGCAAGCACTCTGC
 TTGGAGCAGTGACTGGCTTGCTAAGCGCTTATGTCATCAAAAAGTTGTACTTTGGAAGG
 CATTCAACTGACCGTGAGGTAGCCTTAATGATGCTTATGGCTTATCTATCGTACATGCT
 TGCTGAATCTTCTATCTGAGCGGAATTCTTACAGTATCTTCTGTGGGATTGTGATGT
 CCCATTATACATGGCACAATGTGACGAGAGCTCCAGAGTAACCACCAAGCATGCTTTT
 GCAACACTCTCTTTGTAGCTGAGATCTTCATCTTTCTATATGTTGGTATGGATGCACT
 GGATATTGAGAAGTGAGGATTTGTGAGCGATAGTCCTGGAACATCTGTTGCTGTGAGTT
 CCATACCTGCTTGGTCTTCACATGGTTGGGCGAGCTGCTTTGTTTTCCTTCGCTTT

FIGURE 4 (continued)

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TTAATGAACCTTGTCCAAGAAATCAAATAGTGAGAAGGTCACCTTCAATCAGCAGATAGT
 CATTGTTGGGCTGGTCTCATGAAAAGTGCTGTCTCCGTGGCACTTGCTTATAATCAGT
 TTTCAGGT CAGGACACACACAGCTGAGGGGAAATGCAATCATGATTACAAGCACCATA
 ACCGTTGTCTTTTTCAGTACGATGGTATTTGGGTTGCTGACAAAGCCTCTTATACTCTT
 TATGTTGCCTCAACCGAAACATTTCACTAGTGCAAGCACCGTGTGAGATTGGGGAGTC
 CAAAGTCATTCTCCTTGCCTCTTCTTGAAGATAGACAAGATTCTGAAGCTGATTGGGC
 AACGATGATGAAGAAGCCTACCCCGTGGGACTATAGCTCGACCTACTAGTCTTCGTAT
 GCTACTAAATGCACCAACTCACACTGTCCATCATTATGGCGCAGATTTCGATGATTAT
 TCATGCGGCCTGTATTGGTGGCCGGGGTTTGTACCTTTTGTCCCAGGTTCAACCCACC
 GAACAGAGCATCACTAATTTTGTACAGAGAACATAAGTTAGCGATAATTGAGGCAGTT
 GGTGCAGAAACTAATAACTTACAGCCCTACAGGCAATCTACAAAGACAAAAAATGCCCT
 TACCCAAGAACGAACAGCCCGGTGTTGGTCTCGTGGGCTTGATGTTAAGACTGTGCTG
 TACTTCTGTTAATAGAGAGTAGTTACAGAAACCACCGATTAAACATATCTGTAATTT
 TTACAGCATGGATATTCGATGCATTCTTTAATCTGGCTGTAGCTAGAATACTCTAGCA
 TGTTTTGTAGTTTCAGTCTTACCATTAGGTTTTCTCCTACATAACCTCAATAAGCTGT
 TTAGTGCTTACTGCTTACTTTAGAGCAACTGCAACTGTGAAAATGCTTACGTCAG
 CGGCACCTGTGTAATTTATCATTTTATAATGATGGAGCATGATCATTTGCAATCAAAT
 TTACAATACTGTGATTAAAAA

SEQ ID NO 8: *Suaeda maritima* subsp. *salsa* Na⁺/H⁺ antiporter protein

MLSQSSFFASKMDMVSTSDHASVVSMLFVALLRGCIVIGHLLLEENRWMNESITALLI
 GLSTGIIILLISGGKSSHLLVFSDELFFIYLLPPIIFNAGFQVKKQFFRNFIITILFG
 AVGTLVSFIIISLGSIAIFQKMDIGSLELGLDILAIGAIFAATDSVCTLQVLNQDETPLL
 YSLVFGGCVNDATSVVLFNAIQNFDLTHIDHRIAFQFGNPLYLFFASTLLGAVTGILL
 SAYVIKKLYFGRHSTDREVALMMLMAYLSYMLAELFYLSGILTIVFFCGIVMSHYTWHNV
 TESSRVTTKHAFATLSFVAEIFIFLYVGM DALDIEKWRFSVSDSPGTSVAVSSILLGLHM
 VGRAAFVFPFAFLMNLSSKSNSEKVTFNQQIVTWAGLMKSAVSVALAYNQFSRSGHTQ
 LRGNAMITSTITVLFSTMVFGLLTKPLILEMFLPQPKHFTSASTVSDLGSPKSFSLPL
 LEDRQDSEADLGNDDEAYPRGTIARPTSLRMLLNAPHTTVHHYWRFFDDYFMRPFVFGG
 RGFVPFVPGSPTEQSIITNFVTENIS

SEQ ID NO 9: *Zea mays* Na⁺/H⁺ antiporter NHX1

ATGGGGCTTGGAGTAGTGGCGGAGCTAGTCCGCCTTGGCGTCCTTTCTCCACCTCAGA
 TCACGCCTCCGTGGTTAGCATCAATCTCTTGTGCGCTTGCTCTGCGCCTGTATCGTCC
 TGGGCCATCTTCTTGAAGAGAATAGGTGGGTGAACGAGTCCACCGCGCTGATTGTCGGG
 CTGGCACCGGTACCGTCATCCTCATGATTAGCCGGGGGGTGGTTATTACGTCCTAGT
 CTTCTCCGAGGACCTCTTCTTCTATCTTTTGGCGCGATCATTTTCAATGCAGGGT
 TCCAAGTGAAGAAGAAACAGTTCTTTCGAAACTCATTACTATTACACTGTTTGGTGCA
 GTTGGCACCTTGATCTCTTTACTGTAATATCCCTTGGCGCTCTAGGACTAATATCAAG
 GCTTAATATCGGCGCACTTGAAGTGGGAGACTATCTTGCACTTGGGGCAATATTCTCGG
 CCACAGACTCGGTTTGCACCTTGCAGGTGTTAAGCCAAGATGAGACACCATTCTTGTAC

FIGURE 4 (continued)

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AGTCTTGTATTTCGGTGAAGCGTGGTCAACGATGCCACTTCCGTAGTGGTGTTCATGC
 ACTCCAAAACCTTGATATAACTCACATCGATGCGGAGGTGTCTTCCATCTATTAGGAA
 ACTTCTTCTACCTCTTCTCTTATCAACTGTGTGGGAGTGGCCACAGGACTTATCTCA
 GCGTTAGTGATTAAAAAGCTATACTTTGGACGGCACTCTACTGACAGGAGGTGGCTCT
 TATGATGCTTATGGCGTATCTCTCTACATGTGGCGGAACCTTTCGCGCTGAGCGGGA
 TCTTGACGGTATTTCTTGGGTGCATTGTTATGAGCCACTATACATGGCACAACGTGACA
 GAGTCCAGCAGAATCACGACTAAGCATGCGTTTGGCCACGCTCAGCTTCTAGCCGAAAC
 CTTCCTCTTTCTGTACGTGGGTATGGATGCTCTCGACATTGACAAGTGGAGGTCCGTGA
 GTGACACCCACAGTAAGTCTCTGGCCATAAGCTCGATTTTGATGGGACTCGTGATGGTT
 GGCCGGGCTGCCCTTCGTATTCCTCTCTCTCTCTCTCCAAATTAGCGAAAAAACGGA
 GCACGAAAAAATCAGCTGGAAGCAGCAGGTGGTCAATTGGTGGGCGGGTCTCATGCGAG
 GCGCCGTTTCGATGGCCCTAGCGTACAAGAACTTTACCCGCGCAGGGCATACTCAGGTC
 CGCGGGAACCGATCATGATTACCAGCACGATATCGTCGTGTGTGTTTCGACAATGGT
 GTTCGGCCTGTCTACGAAGCCCTTAATTAACCTTGCTAATACCGCACCGTAACGCCACAT
 CGATGTTGAGCGATGACTCAAGCCCAAAGTCTTGCATAGCCCTCTGCTAACCTCTCAA
 CTCGGTAGCGACTTAGAGGAGCCGACCAACATCCCGCGGCCGAGCTCCATAAGAGCGGA
 GTTCCTCACCATGACTAGGACCGTGCACCGATACTGGCGCAAGTTCGACGACGCTTCA
 TGAGGCCCATGTTCCGAGGCCGCGGTTTCGTACCTTTCGTGCGCAGGCAGCCGACCGAG
 CGTAATCCGCGGATCTTCCAAGGCTTAA

SEQ ID NO 10: *Zea mays* Na⁺/H⁺ antiporter NHX1 protein

MGLGVVAELVRLGVLSSTSDHASVVSINLFVALLCACIVLGHLLLEENRWVNESTALIVG
 LGTGTVILMISRGVVIHVLVFSDELFFFYLLPPIIFNAGFQVKKKQFFRNFITITLFGA
 VGTLSFTVISLGLGLISRLNIGALELGDYLAALGAIFSATDSVCTLQVLSQDETPFLY
 SLVFGEGVNDATSVVFNALQNFDTITHIDAEVVFHLLGNFFYLFLSLSTVLGVATGLIS
 ALVIKKLYFGRHSTDREVALMMLMAYLSYMLAELFALSGILTVFFGCIVMSEHYTWHNV
 ESSRITTKHAFATLSFLAETFLFLYVGM DALDIDKWRVSVDTPGKSLAISSILMGLVMV
 GRAAFVFPPLSFLSNLAKTEHEKISWKQVVIWWAGLMRGAVSMALAYKKFTRAGHTQV
 RGNAMITSTIIVLFSIMVFGLLTKPLINLLIPIHRNATSMLSDDSSPKSLHSPLITSQ
 LGSDLREPTNIPRPSSIRGEFLTMTRTVHRYWRKFDDAFMRPFMFGGRGFVFPVPGSPTE
 RNPPDL SKA

SEQ ID NO 11: *Zea mays* Na⁺/H⁺ antiporter NHX2

ATGGGCCCTTGGTGTGATGCGGAGACGGTCAGGCTCGGAGTCCTTAGCTCGACCTCGGA
 TCATGCCAGCGTTGTGCTAGTAACAACCTCTTCTGTCAGCACTCTTTGCGCCTGTATCGTCC
 TCGGGCATCTCTTGAGGAGAACCGAATGGTTAATGAGTCTATTACAGCACTGCTGGTG
 GGGCTGGGCACTGGGACCGTGATTCTGATGATTAGTGGGGCGTGAGTATTCACGTTCT
 CGTCTTTTCAGAGGACCTGTTCTTTATCTATCTGTTACCTCCGATTATCTTCAATGCCG
 GGTTCAGTAAGAAAAAGCAATCTTCCGCACTTTATAACGATTATTTGTTTGGT
 GCTATTGGGACTCTGATTTCCTTTGTAATAATCTCTCTGGTGCTATGGGGTGTGTTCAA
 GAAACTTGATGTTGGTCCACTCGAGCTTGGGGACTATCTTGCAATTGGTGCTATTTCT
 CGGCAACAGATTCTGTTTGACCTTACAGGTGCTTAACCAGGATGAAACACCCCTACT

FIGURE 4 (continued)

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TACAGTCTCGTATTTCGGCGAGGGCGTTGTTAATGATGCTACCTCAATCGTTGTGTTCAA
 CGCGCTCCAAAACCTTCGACATCACCACATCAATGCCGAGGTGGTATTTACCTCCTTG
 GCAACTTCTTGTACCTCTTCTATTGAGCACCGTGTCTGGCGTGGCGACCGGTCTCATC
 TCCGCGCTGGTTCATTAGAAGATCTACTTCGGACGCCACTCGACTGATCGGGAAGTGGC
 CTTAATGATGCTGATGGCATATCTAAGCTACATGCTGGCAGAGCTTTTGGCCCTGTCCG
 GAATCCTCACTGTGTTTTTTCGGCTGCATCGTTCATGAGCCATATACGTGGCACAACGTC
 ACGGAGTCTAGCCGAATTACTACGAAGCACGCCCTTTGCCACCCTGTCTTCTCGCTGA
 GACTTTCATATTTCTCTACGTTGGGATGGATGCGCTAGACATTGAGAAGTGGCGGTCCG
 TTTCCGACACCCCGGGCAAATCGATAGCCATATCTCCATACTCATGGGCTTGTCTATG
 CTTGGACGCGCGGCTTTCGTGTTCCGCTAAGTTTCTTGTCAAATCTGGCGAAGAAGAA
 TGAGCAGCAAAAGATCTCCTGGAAGCAGCAAGTTGTGATCTGGTGGAGCGGTTTGATGA
 GGGGTGCTGTCTCTATGGCCCTAGCTTATAACAAGTTTACCAGAGCCGCCATACGGAG
 GTGAGAGGTAACGAAATCATGATTACTAGCACCATTACCGTGTGCTATTCTCCACAGT
 GGTGTTCCGTCTCCTGACTAAACCACTGATCAGGCTCCTTATGCCCCACCGCATCTGA
 CCATGCTCTCCGACGACAGCAACCCGAAGTCATTGCACTCACCTTTGCTGACATCCGAG
 CTCGGAAGCTCCATCGAAGAGCCGACGAGATACCCAGCCCTACAAATATTCTGTGGCGA
 ATTCACAATATGACGAGAACCGTGCATAGGTACTGGAGAAAATTTGATGACAAATTCA
 TGCGCCCAATGTTTGGCGGCAGGGGCTTCGTACCCCTTCGTCCCTGGTTACCAACGGAG
 AGGAATCCCCACGATCTTTCAAGCCCTAA

SEQ ID NO 12: *Zea mays* Na⁺/H⁺ antiporter NHX2 protein

MGLGVDAETVRLGVLSSSTSDHASVVSNNFFVALLCACIVLGHLLLENRMVNESITALLV
 GLGTGVILMISRGVSIHVLVFSEDLFFIYLLPPIIFNAGFQVKKQFFRNFIITILLFG
 AIGTLISFVILSLGAMGLFKILDVGPLELDYLAIGAIFSATDSVCTLQVLNQDETPLL
 YSLVFGGVDNATSIIVFNALQNFDTITHINAEVVFHLLGNFLYLFLLSVLGVATGLI
 SALVKKIYFGRHSTDREVALMMLMAYLSYMLAEFLALSGILTVFPGCIVMSHYTWHNV
 TESSRITTKHAFATLSFLAETFIIFLYVGMALDIEKWRVSVDTPGKSIATSSILMGLVM
 LGRAAFVFLSFLSNLAKKNEHKKISWKQVQVVIWWSGLMRGAVSMALAYNKFTFRAGHTE
 VRGNEIMITSTITVFLFSTVVFGLLTKPLIRLLMPHRHLTMLSDDSTPKSLHSPLLTSQ
 LGSSIIEPTQIPRPTNIRGEFTTMTRTVHRYWRKFDDKFMRFMGGRGFVPFVPGSPTE
 RNPDLISKP

SEQ ID NO 13: *Zea mays* Na⁺/H⁺ antiporter NHX3

ATGTCAATAGGACTGACGGCCGAGACCGTGACTAACAAGCTAGCCAGCGCCGAGCACCC
 CCAAGTCGTCCCTAATCTGTGTTCAATTGCGCTCCTCTGTCTGTGCTGCTGATAGGCC
 ACCCTCCTTGAGGAGAACAGATGGGTCAATGAATCAATAACAGCCATTCTCGTGGGCGCT
 GCGACTGGGACCGTCATCCTGCTCATCTCGAAAGGAAAAATCGAGCCACATACTTGTGTT
 CGATGAGGAATTGTTTTTTCATCTATCTACTGCCGCAATTATTTTCAATGCCGGGTTTC
 AAGTAAAGAAAAAGCAATCTTCCGCAACTTTATAACGATTATTTGTTGGTGCTATT
 GGGACTCTGATTTCTTTGTAATAATCTCTCTGGTGCTATGGGGTTGTTCAAGAAACT
 TGATGTTGGTCCACTCGAGCTTGGGGACTATCTGCAATTGGTGCTATTTCTCGGCAA
 CAGATTCTGTTTGCACCTTACAGGTGCTTAACCAGGATGAAACACCCCTACTCTACAGT

FIGURE 4 (continued)

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CTGGTATTCCGGTGAGGGGGTCGTGAACGACGCTACAAGTGTGTGCTGTTTAAATGCAGT
 GCAAAAGATCGACTTCGAACACCTTACCGGAGAGGTGGCGCTCCAGGTTTTCGGCAACT
 TCCTCTATCTGTCTCAACCTCAACGGTCTGGGCATAGCCACTGGGCTCATTACCGCC
 TTCGTCTCAAGACACTCTACTTCGGCCGTCTAGTACTACCGTGAGTTGGCCATTAT
 GGTCTGATGGCTACTTGTCTTCATGCTTGCTGAGTTGTTTCACTCTCAGTGGTATCA
 TTAATGTTTCTGCGGCGTGCTCATGTCCCATGTACCTGGCACAATGTTACTGAG
 TCGTCCAGAATTACCTCTGCCATGTGTTGCTATGCTAAGCTTCATTGCCGAAACGTT
 TTTGTTTCTGTACGTGGGGACGGACGCGCTTGACTTCACAAAGTGGAGACGTTCTCGT
 TATCCTTTGGGAAGTCCCTAGGGGTATCCAGCGTGCTCCTGGGGTTGGTTCTAGTCGGT
 CGGGCGGCATTGTTTTCCCCCTCTCGTTCCTGAGCAACCTTAGTAAGAAACACCTGG
 GGAAAAAATCAGATCAGGCAGCAGGTTGTAATTTGGTGGGCAGGACTTATGAGGGGCG
 CCGTCAGCATCGCTTTGGCGTTCAACAAATTTACAAGGGCCGGTCACACTCAGGTAAGA
 GGAAACGCAATCATGATCACTAGCACCATCATCGTGGTGCTTTTCTCTACAGTCGTTTT
 CGGCCTCCTCACAAACCGTTAATCAACCTTCTCATACCCCATCGCAATGCAACCTCCA
 TGTGTCTGACGACTCCAGCCCTAAGTCTCTACACAGCCCACTTTTAACCTCCCACTG
 ATAAGCTCAATCGAGGAGCCACGCAATCCCGCGGCGGACAAATATACGGGGTGAGTT
 CATGACCATGACGCGAACCGTGATCGCTATTGGCGCAAGTTTGATGACAAGTTCATGA
 GGCCTATGTTTCGGAGGAGGGGTTTTGTCCCGTTTGTCCAGGGTCGCCTACCGAAAGA
 AGCTCACCCGATCTATCCAAGGCATGA

SEQ ID NO 14: *Zea mays* Na⁺/H⁺ antiporter NHX3 protein

MSIGLTAETVTKLASAEHPQVVPNSVFIALLCCLVIGHLLLEENRWVNESITAILVGA
 ATGTVILLISKGKSSHILVFDEBLFFIYLLPPIIFNAGFQVKKKQFFRNFTIILFGAI
 GTLISFVVISLIGAMGLFKKLDVGPLELGDYLAIGAIIFSATDSVCTLQVLNQDETPLLYS
 LVFGEVVDATSVVLFNAVQKIDFEHLTGEVALQVFGNFLYLFSTSTVLGIATGLITA
 FVLKTLFYGRHSTTRELAIMVLMAYLSFMLAELFSLSGIITVFFCGVLMSEVTHNVTE
 SSRITSRHVFAMLSFIAETFLYVGTDALDFTKWKTSLSLSEFGKSLGVSSVLLGLVLVG
 RAAFVPLSLFSLNLSKKHPGEKITIRQQVVIWAGLMRGAVSIALAFNKFTRAGTQVR
 GNAIMITSTIIIVLFSSTVVFGLLTKPLINLLIPHRNATSMLSDDSSPKSLHSPLLTSQL
 ISSIEPTQIPRPTNIRGEFMTMTRTVHRYWRKFDDKEMRPMFGRGFVPFVPGSPTER
 SSPDLKA

SEQ ID NO 15: *Zea mays* Na⁺/H⁺ antiporter NHX4

ATGGGGTATCAGGTCGTGCGCGCAGCTGAAGCTGGCTTCCTCAGCTGACCACGCAAG
 CGTGGTTATCATCAGCTCTTCGTGGCCCTCCTCTGCGCTTGATAGTGTGGGCCATC
 TTCCTGAAGAGAATCGCTGGCTAAACGAATCAATTACAGCATTGATAATCGGGCTCGGA
 ACGGGGTTGTGATTCTATTGATCAGCCGAGGTAAGAACAGCCGCTGCTGTGTCTC
 GGAGGACCTCTTCTCATCTATCTATTGCCGCCCATTTATTTCAATGCCGGGTTCCAGG
 TGAAGAAGAAACAGTTCTTCGGAATTTTCATGACAATCACTATTCGGTGCTGTGGC
 ACAATGATATCCTTCTTCACAATCTCTCGGCGCAATAGCGACATTCAGCAGAAATGAG
 CATTGGGACGCTAGATGTGGGGATTTTCTCGCTATTGGAGCTATCTTTCTGCAACGG
 ATTCGTGTGCACGCTGCAGGTCCTCCATCAGGATGAGACGCCCTTCTGTACAGTCTG

FIGURE 4 (continued)

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GTATTCCGGGGAGGGCGTAGTGAACGATGCCACAAGTGTGTACTCTTCAACGCAAGTTCA
GAAAGATCCAGTTTACCACCAATAAATGCATGGACAGCTCTCCAGCTGATCGGTAACCTTTC
TTTACCTCTTTCTCCACGAGTACACTGCTCGGTATCCGGGACCGGCTTGATACACAGCGTTT
GTCCTGAAGAAGTTGTATTTCGGCAGGCATCCACTACCGGGAGCTTGCATCATGAT
CTAATGGCGCTACCTGTCATACATAGCTTGCCGAGTTCTTTAGTCTGTGCCGGGCTCCTCA
CGGTCTTTTCTGTGGCGGTCTAATGTCTCATGTGCATATGCATATATGTTTACGGAAGTCC
AGCAGGACAACCAGCCGTCACGTGTTCCGACGCTCTCGTTTCATATCTAGACATTTTCAT
ATTCCTGTATGTGGGCAATGGAGCGCATCGATTTCGAGAAGTGGAAAGACCTCATCAITAA
GCTTCGTGGGACCCCTGGGAGTTAGTGGAGTACTAGGGGCTGGTCACTAGGAGAGA
GCTGCTTTTGTCTTCTCTCTCTCTCTCTCTCAACCTCGCAAGAAACCAAAAGTGA
GAAAATTTCTTTAGAGTGCAGGTTGTGATTTTGTGTGGCGGGTCTAATGCGCGCGCGG
TTTCCATGGCCTTTGGCGTTGAAACAAATTCACCTGGGAGCGGCCACCCAGCATCATATGGC
AATGCTATCATGATACTTCAACCATACCGTGGTGTGTTCTTACAGTGGTCTTTGG
CATGATTACAAGGCCATCATGATGAGGCTGCTTTTGCTGCTGCTCTGGACATCCGAGAGAAT
TATCGGAACCGTCTGTCAACCAGAGATCTCCATAGTCTCTCTTCTTACCTCGCAACGAGGA
TCTGACCTGGAGTTCGACAACCAATATAGTCGTCCTCTCTCACTTAGGGGGCTCCTCA
TAAACCAACTCACAGGTCACACTACTGCGCGGAAGTTCGATGACGCACATTATGAGAC
CGGTGTTTCGGGGGACGTGGTTTTCGTGCCATTGTTTCCCGGCAGCCCAACCGAGCGAAAT
CCACCCGATCTGTCCAAAGCCTGA

SEQ ID NO 16: *Zea mays* Na⁺/H⁺ antiporter NHX4 protein

MGYQVVAQQLKCLASSADHASVVIITLFLVALLCACIVLGHLLLEENRWLNESITALIIGLG
TGVVILLIRSGKNSRLLVFSEDLFFIYLLPPIIFNAGFQVKKKQFFRNFMITTFLFGAVG
TIMISFTTISLGAIALTFSRMSIGTLVDVGDFLAIGAFSATDSVCTQLVLHQDETPLYLSL
VFEGGVNDATSVLFFNAVQIKQFTHINAWALTQIGNLFVLFLSTSTLLGIGTLGITAF
VLKLLVYGRHSTTRELALMILMAYLSYMLAELFSLSGLLTVFFCGVLMSHVTHWNVTAS
SRTTSRHVFATLSFISEFTIMFLVGMADLDFEKWKSTSSLSFGGTLGVSGVLMLGLVMLGR
AAFVPLSFLSNLAKKHQSEKISFRMQVVIHWNAGLMRGVSMALANLKNFTRSQGTLQH
NAIMITSTITVLFSTMVFGMITKPLIRLLLPASGHPRELSSESPSPKSFHSEPLTSSQGS
SDLESTTNIVRPSSRLRGLLTKEPTHTVHYWRKFDLDALMRPVFGGRGFVFPVFGSPTERN
PDLLSKA

SEQ ID NO 17: *Hordeum vulgare* HvNHX1

AACCGAACCTTCTCTCAGATACCCCGCCCGCGCGAAAAGAATAGAGGAGAATCCCGACCT
 CCCCGCCCGCGGGCTCGGCATCTGCCCCCTCTTCTCCTCTCCTCGCTCCCCACCCCC
 GGGTTTCCCCTGCCATTCTTTCCTCCGCCACCCCGGCCCGGGCAGGAAGCAGCGCGGG
 AGACGGGGCCAGGAGGAGGAGGAGCTCGGCTGTCTTCGTCTCCCGCTCGATTCTGTCTC
 CGGATTAGCGCGCGCGGCCGTTCCCGAGGGCTCCGTCCGGGTTGATCGATCTGATTG
 AAAAAGCCCGCTCTTTTCCCGAGGGCGCGCGCTCGCTCGCGGAGCTAGCTGTGTCTC
 GTTCGGCGCGGCTCAATGGAAGAAGATAACGGCGGGATGGCGTTCGAAGTGGTGGCGG
 CGCAGTTGGCGGGCTGAGCGACGCGCTGGCCACCTCGGACCACGCTCTCGTGTCTCC
 ATCAACCTCTTCGTGCGCTGCTCTGCGCTCGCATCGTCTCGGCCACCTCTCGTAGGA

FIGURE 4 (continued)

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GAACCGCTGGCTCAACGAGTCCATCACCGCCCTCATCATCGGGCTGTGCACGGGCGTGG
 TGATCCTGATGACCACCAAGGGGAAGAGCTCGCACGTGCTCGTCTTCAGCGAGGACCTC
 TTCTTCATATACCTCCTCCCTCCCATCATCTTCAACGCCGGTTTCCAGGTGAAGAAGAA
 GCAGTTCTTCGGGAATTTCATGACAATCACATTATTGCGCGCTGTGCGGACGATGATTT
 CATTCTTCAATCTCTCTGCTGCCATTGCGATATTAGCAAGATGAACATTGGGACA
 CTGGATGTATCAGATTTCTCGCAATTGGAGCCATCTTTCCGCGACAGATTCTGTCTG
 CACTTTACAGGTTCTCAATCAGGACGAGACGCCCTTTCTGTACAGTCTAGTTTTCGGGG
 AAGGTGTTGTGAACGATGCCACATCAGTCGTGCTTTTCAACGCCGCTCCAGAACTTCGAT
 CCTAACCAATCGATGCAATCGTCATTCTGAAGTTCTTGGGAAACTTCTGCTACTTATT
 CGTGTCAAGCACCTTCTTGGAGTATTTCTGGATTGCTCAGTGCTACATAATCAAGA
 AGTTATACATAGGAAGGCATTCTACTGACCGTGAGGTGCGCTTATGATGCTCATGGCC
 TACCTCTCATATATGCTAGCTGAGCTGCTTGATTGAGTGGCATCCTCACCGTGTCTT
 CTGTGGTATTGTGATGTCGCAATTATACTTGGCATAATGTGACAGAGAGCTCAAGAGTTA
 CAACAAAGCATGCTTTTGCAACCTTGTCTTCATTGCTGAGACCTTCTCTTCTTTAT
 GTTGGGATGGATGCACTGGATATCGAGAAGTGGAAATTTGCTAGTGACAGCCCTGGCAA
 ATCCATCGGAATAAGCTCAATTTTGCTAGGATTAGTTCTGTTTGGAAAGAGCTGCTTTTG
 TCTTCCCGCTTTCATTCTTATCCAACCTGACAAAGAAGACGGAGCTCGAAAAATAAGC
 TGGAGGCAGCAAATCGTAATATGTTGGGCTGGGCTGATGAGAGGAGCTGTGTGCTCGC
 TCTTGCTTACAATAAGTTTACAAGATCTGGCCACACACAGCTACACGGCAACGCGATAA
 TGATCACCAGCACCATCACTGCTGTTCTGTTAGCACTATGCTGTTTGGCATATTGACA
 AAGCCTCTGATCCGGTTCCTGCTGCCCGCTCGAGCAATGGCGACCCCTCGGAGCCCTC
 GTCACCGAAGTCCCTGCACTCTCCTCTCCTCACAAGCATGCTAGGCTCGGACATGGAGG
 CGCCTCTCCCATCGTCAGGCCCTCCAGCCTCCGGATGCTCATCACCAAGCCGACCCAC
 ACCATCCACTACTACTGGCGCAAGTTGACGACGCGCTGATGCGTCTTATGTTGCGCGG
 GCGCGGGTTGCTGCCCTACTCCCCTGGATCACCCACCGATCCAAACGTAATCGTGGCAT
 GAACGTTGTGGAGAGAAGAGAAAGCCATTACAGCTTCAGGAGACACTCTGAAGTTG
 TAACTGGAAGAGAAGGAGGTGCTACAGCTTCGGAAGAAGGCGAAGTCTCCATTACTATT
 ATAGTGTGTTGGCTGACTCGGAGGGCCGAAGAAGGCGCCCTCTGACGATGGTTGAGATG
 AACGTTGGTTGCGGCACCAACAGGAAGATGAACCTAGTAACGGTGATGCGAGTACCA
 TCGCCTTATCGGTTACGACAAGCCTGTACATTTTGTATGTAGATTAAACAGCCAATTG
 TACCTATGAGATGAGATCTCCTCTGGCAGGCAGGCAGGCCATTTCCTTGCTCCTTGGC
 TAGGAGTCTCTGGCCTCCTGCATATCTACCAGTGCTTATTAATCTCCTCCCCACTTTC
 TAGTGGATTGGTGTAAATGGTGTGACTTTACCAAGTTGTGTGAGATGAGTGATGATCTT
 GTGGCCTGGTTGCTACAAAGAACTCATCTCAAAGTTATCTATCTATTTTCTATATTGAA
 TTGAAGTGAAGTTGTGCTTGAACCA

SEQ ID NO 18: *Hordeum vulgare* HvNHX1 protein

MAFEVVAQLARLSDALATSDHASVVSINLFVALLCACIVLGHLLLEENRWLNESITALI
 IGLCTGVVILMTTKGKSSHLVFSDELFFIYLLPPIIFNAGFQVKKKQFFRNFMITITLF
 GAVGTMISFFTISLAAIAIFSKMNIGTLDVSDFLAIGAI FSATDSVCTLQVLNQDETFF
 LYSLVFGEVVDATSVVLFNALQNFDPNQIDAIVILKFLGNFCYLFVSSFTFLGVFSGL
 LSAYIIKKLYIGRHSTDREVALMMLMAYLSYMLAELLDLSGILTVFFCGIVMSHYTWN

FIGURE 4 (continued)

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VTSSRVTTKHAFATLSFIAETFLFLYVGM DALDIEKWKFPASDSPGKXSIGISSILLGLV
LVGRAAFVPLSFLSNLTKTELEKISWRQQIVWWAGLMRGAVSIALAYNKFTRSGHT
QLHGNAIMITSTITVVLFSITMLFGILTKPLIRFLLPASSNGDPSEPSSPKSLHSPLLTS
MLGSDMEAPLPPIVRPSSLRMLITKPTHTIHYWRKFDDALMRPMFGGRGFVPYSPGSP
DPNVIVA

SEQ ID NO 19: *Triticum aestivum* NHX2

ATGGGGTACCAAGTGGTGGCGGCGCAGCTGGCGCGGCTGAGCGGCGCGCTGGGCACCTC
GGACCACGCCTCCGTGGTCTCCATCACCTCTTCGTGCGCTGCTCTGCGCCTGCATCG
TCCTCGGCCACCTGCTCGAGGAGAACCCTGGCTCAACGAGTCCATCACCGCCCTCATC
ATCGGGCTGTGCACCGCGCTGGTGATCCTGATGACCACCAAGGGGAAGAGCTCGCACGT
GCTCGTCTTCAGCGAGGACCTCTTCTTCATCTACCTCCTGCCTCCCATCATCTCAACG
CCGGTTTCCAGGTGAAGAAGAAGCAGTTCTTCCGGAATTTATGGCAATCACACTATTT
GGTGCCGTGGGACGATGATGTCGTTTTTCAATATCTCTTGCTGCCATTGCGATATT
CAGCAGGATGAACATTGGGACACTGGATGTATCAGATTTCTTGCAATTGGAGCTATCT
TTTCCGCGACAGATTTCTGTCTGCACTCTACAGGTTCTCAATCAGGACGAGACGCCCTTT
TTGTACAGTCTAGTGTTCGGGGGAAGGTGTGTGAACGATGCCACATCGGTCTGCTTTT
CAACGCGCTCCAGAACTTCGATCCTAACAGATCGACGCGATCGTCATTTCTTAAGTTCT
TGGGGAACCTTCTGCTACTTATTCGTGTCAAGCACCTTCTTGGAGTGTTTACTGGATTG
CTTAGTGATACGTCATCAAGAAGTTATACATAGGAAGGCATTCTACTGACCGTGAGGT
CGCACTTGTGATGCTCATGGCCCTACCTCTCATATATGCTAGCTGAGCTGCTAGATTGA
GTGGTATCCTCACTGTATTTCTTCTGTGTTTGTGATGTCACATTACACCTGGCACAAC
GTGACAGAGAGCTCAAGAGTTACAACAAAGCATGCATTGCAACCTTGTCTTCATCGC
TGAGACTTTTCTCTTCTTATGTTGGGATGGATGCACTGGATATTGAGAAGTGGAAT
TTGCTAGTGACAGCCCCGGCAAATCCATTGGAATAAGCTCAATTTTGTCTGGGTGGTT
CTGGTTGGAAGAGCTGCTTTCTGTTCTTCCGCTCTCGTTCTTATCCAACCTGACAAAGAA
GACGGAGCTCGAAAAATAAGCTGGAGGCGCAATCGTAATATGGTGGGCTGGGCTGA
TGAGAGGAGCTGTGTCGATCGCTCTTGCTTACAATAAGTTTACAAGATCTGGTCACACA
CAGCTGCACGGCAACGCGATAATGATCACCAGCACCATCACTGTCTGTTCTGTTAGCAC
TATGTTGTTTGGCATTTTGACAAAGCCTCTGATCCGTTTCTACTGCCCGCGTCGAGCA
ATGGCGCGCGCTCAGATCCCGCGTCACCGAAGTCCCTGCACTCTCTCTCTCACAAGC
CAGCTAGGCTCGGACCTGGAGGCGCCTCTCCCATCGTGAGGCGCTCCAGCCTCCGGAT
GCTCATCACCAAGCCGACCCACCATCCACTACTACTGGCGCAAGTTTGACGACGCGC
TGATGCGCCCGATGTTTCGGAGGGCGCGGTTCTGTCCTTCTCCCAAGGATCAACCA
GATCCGAACGTACTCGTGAATGAACGTGCGGAAGAAGCAACGGAGAAGCCATTACAGC
TTCAGGAGACACTCTGAACGTAAACAGGAAGGGAAGGAAGTGTACAGCTTCAGAAGAA
CGCGAAGTCTCCGGTAATATTATAGCGTTTGGCAGACTCGGAAGGCTGAAGAAGCGCGC
CCTCCGATGATGGTTTCAATGAACGGTTGGTTGCGGCACCGACAGGAAGATGAACCTTA
GTAACGGTGATGCGAGTATCATCATCGCTTATCGGTTACGACAAAGCCTGTACAGTTT
TGATGTAGATTAAACAAGCCAATTGTATCTTATGAGATCTCCGTTGGCAGGCGCGCTC
TGACCTCCTGCATCTGCGACGACCGCGCGGTGGCCAAGGCGGGTGGCGCGGTCTGAC
GCGCGCTTCCGCGCGGCTGATGTTCCAAGCGAGGGCGGGCTCAAGAGCTTCGAGCA
CCCCATGAACCGCTTAAGGCGCTCCCAAGGCTGGACAGCGAGGGCGTCTGTCGCGG

FIGURE 4 (continued)

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CCAACCTCAAGGTCGACGCCTTCACCAAGATCAACTCCATGCCCGCGTCGGCAGCGCC
 ACCAACTGGGCGCGCCCTGGGACGACGCCCATCTGATCCTCGCGCGCGCGCGTT
 GCTCTCCGTCGTGGCCTCGTCGGGCTTGGGCTTATGCACTTTACTTGTTTTCTTCC
 TTGGCAATGTACATTCTGATCTGATCTGATCTGAGCCGTGTGTGGCGTGGCGCGCTG
 GCACGTACGGCTGTTTGCTTGTACGATGGAGGAATAAGACTTTGCTTCCAGTCCAAAA
 AAA

SEQ ID NO 20: *Triticum aestivum* NHX2 protein

MGYQVVAQLARLSGALGTSDHASVVSITLFWALLCACIVLGHLLLEENRWLNESITALI
 IGLCTGVVILMTTKGKSSHVLVFSDELFFIYLLPPIIFNAGFQVKKQFFRNFMAITLF
 GAVGTMMSFFTISLAAIAIFSRMNIQTLDSDFLAIGAIFSATDSVCTLQVLNQDETFP
 LYSLVFEGGVNDATSVVLFNALQNFDPNQIDAIVILKFLGNFCYLFVSSFTLGVFTGL
 LSAYVIKKLYIGRHSTDREVALVLMAYLSYMLAELLDLGILTVFFCGIVMSHVTWHN
 VTSSRVTTKHAFATLSFIAETFLFLYVGMDALDIEKWKFSADSPGKSIGISSILLGLV
 LVGRAAFVPLSFLSNLTKKTELEKISWRQQIIVWAGLMRGAVSIALAYNKFTRSGHT
 QLHGNAIMITSTITVVLFSFMLFGILTKPLIRFLFPASSNGAASDPASPKSLHSPLLTS
 QLGSDLAEPPIVRPSSLRMLITKPTHTIHYWRKFDDALMRPMPGGRGFVPYSPGSPT
 DPNVLVE

SEQ ID NO 21: *Oryza sativa* NHX2

GGTGGCCATCTCGCTTGAATCTGCAGGGTGAGCTGAGGAGGATCCACTGAGGTGGCGGC
 GGTGAGATGGGGCTGGATTGGGAGCTCTCGTTCTCAAATCCGGCGGGCTGTTGGTGT
 CGGACTACGACTCGATCGTCGCGATCAACATCTTCGTGGCGCTGCTGTGCAGCTGCATT
 GTGATCGGGCACCTGCTGGAAGGAACCGGTGGGTCAATGAATCCATCACCGCGCTTGT
 CATGGGGCTGATCACTGGAGGTGTGATTCTGCTCGTCAGTGGTGGGAAGAACTCGCACA
 TTCTTGTGTTCACTGAGGACCTCTCTTCATTTATTTGCTTCCACCGATCATCTTTAAT
 GCTGGGTTTCAAGTAAAGAAAAACAATTCTTCGCAATTTATGACAAATATTTTATT
 TGGTGTCTGGGGACATTGATATCCTTTGTGATAATCTCTCTAGGTGCCATGACATTGT
 TCAAAAAACTTGATGTTGGTCCACTCCAGCTTGGGGACTATCTTGCAATTGGGGCTATC
 TTCTCAGCAACAGATTCTGTTTGCACCTTACAGGTGCTTAACCAAGACGAAACACCCCT
 ACTCTATAGTCTGGTTTTTGGTGAAGGGTTGTCAATGATGCTACATCTGTTGTGCTCT
 TTAATGCAATTGAAGACATTGATATTGCTAATTTGATAGCCTTGTCTACTAGCGTTC
 ATAGGAAATTTCTCTACCTATTCTTCACAGTACCTTCTTGGAGTAGTTGCTGGGTT
 GCTTAGTGCTATATTATTAAGAACTATGTTTGGCCAGACACTCAACTGACAGAGAAG
 TTGCTATCATGATACTCATGGCGTACCTTTCATATATGCTGTGATGCTGTAGATCTG
 AGTGGCATTTCTACTGTGTTCTTCTCTGGAATAGTAATGTACATTACACTTGGCATAA
 TGTGACAGAAAGCTCTAGGATTACTACCAAGCACACTTTTGCTACTTTATCTTTTCATTG
 CTGAAATTTTCTATTCTCTATGTTGGGATGGATGCACTGGACATTGAAAAATGGAAA
 TTAGCTAGCAGCAGTCTCAAAAAACCAATTGCTTAAAGTGCAACTATATGGGCTTGGT
 TATGGTTGGAAGAGCAGCATTGTTATCCCTTTGTCTTTCTTATCCAATCTAAGTAAAA
 AAGAGACACGCCCCAAGATCTCCTTCAAGCAGCAAGTAATCATATGGTGGGCGGTCTC
 ATGAGAGGAGCAGTATCAATAGCACTTGCTTATCAAGTTACCGCATCTGGTCATAC

FIGURE 4 (continued)

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TGAATTGCGAATCAATGCTATCATGATCACCAGCACAGTCATTGTTGTTCTGTTTCAGCA
 CAATGGTTTTTGGTTTTTTTACCAAGCCTCTCCTCAATCTCCTCATCCCACCAAGGCCT
 GACATAGCAGCTGATCTCTCAAGCCAGTCAATCATAGACCCACTTCTTGGAAAGCCTGCT
 GGGGTCTGACTTCGATGTAGGCCAGCCCTCCCTCAGAACAACCTTCAGCTTCTTCTCA
 CCATTGAGACTCGCTCCGTTTCATCGCGTGTGGCGCAAGTTTGATGATAGATTTCATGCGC
 CCGATGTTCCGGGGCCGAGGCTTCGTTCCCTTCGTCCTGTTCCGCAAGTGGAGCGGAG
 CATCCATGGATCTCAACTGGGCACTGTGACTGAGGCTGAACATAGCTGAGTTTGAGGTT
 CAGAAGGTGCAAGCA

SEQ ID NO 22: *Oryza sativa* NHX2 protein

MGLDLGALVLKSGGLLVSDYDSIVAINIFVALLCSCIVIGHLLLEGNRWVNESITALVMG
 LITGGVILLVSGGKNSHILVFSEDLFFIYLLPPIIFNAGFQVKKQFFRNFMIIILFGA
 VGTLSIFVIIISLGAMTLFKKLDVGPLQLGDYLAIGAIFSATDSVCTLQVLNQDETPLY
 SLVFGGEGVNDATSVVLFNALEDIDIANFDSLVLAFIGNFLYLFFSTLLGVVAGLLS
 AYIIKKLCFARHSTDREVAIMILMAYLSYMLSMLLDLSGILTVFFSGIVMSHYTWHNV
 ESSRITTKHTFATLSFIAEIFLFLVVGMDALDIEKWKLASSSPKPIALSATILGLVMV
 GRAAFVFPLSFLSNLSKKETRPKISFKQQVIIWAGLMRGAVSIALAYHKFTASGHTL
 RINAIMITSTVIVVLPSTMVFGFFTKPLNLLIPRPDIAADLSSQSIIIDPLLGSLLGS
 DFDVGQFSPQNNLQLLLTIQTRSVHRVWRKFDDEFMRPMPGGRGFVFPVPGSPVERSIH
 GSQLGTVTEAHS

SEQ ID NO 23: *Saccharomyces cerevisiae*

ATGCTATCCAAGGTATTGCTGAATATAGCTTTCAAGGTGCTGTTAACCACCGCCAAGAG
 AGCAGTTGATCCTGACGATGATGATGAACCTTCTACCTTCCCGGATCTCCCGGGTAGCG
 ATGACCTTATGACGGTGATCCTGATGTAGACTTAAACCTGTTACAGAAGAAATGTTTC
 TCTTCATGGGCATTGTTTATTATGTTGCTCCTATTGATCTCTGCATTGTGGTCTAGTTA
 CTATTAACTCAGAAACGAATTAGGGCAGTGCATGAACTGTGCTTTCTATTTTTATG
 GTATGGTTATTGGCTTGATAATAAGGATGTCCCGGGCATTATATTCAAGATACGGTT
 ACTTTTAATTCATCTACTTTTTTAATGTCTATGCGCCCAATTATTTTAAATAGTGG
 GTACGAGTTGAATCAAGTGAACCTTTTCAATAATATGTTATCTATCTTAATTTTGGCCA
 TACCGGGCACCTTCATATCTGCTGTGGTTATTGGAATCATATTGTATATCTGGACCTTT
 TTAGGACTAGAGATTATGACATTTCATTGCGAGATGCAATGTCTGTTGGTGCTACATT
 ATCTGCTACCGACCTGTTACAATTCTTTCAATTTTCAATGCGTATAAAGTGGATCCTA
 AGCTATATACCATCATTTTTGGAGAATCACTGTTAAATGATGCCATCTCTATTGTTATG
 TTTGAAACCTGTCAAAAATTTATGGTCAACCTGCAACATTTTCGTCCGTTTTTGAAGG
 GGCAGGCCTCTTTTTGATGACTTTCTCCGTTTCTGTTGTGATAGGCGTTCTTATAGGAA
 TTCTTGTTGCTCTTCTGTTGAAACACACTCACATAAGGCGCTATCCTCAAATTGAGAGT
 TGTTTGATCTTGTGATTGCTTATGAATCCTATTTTTTCTCCAACGGTTGCCATATGTC
 CGGTATCGTCTCCTTGTTATTTTGGCGAATTACTTTAAAACATTACGCCATTATATAACA
 TGTCAAGAAGATCACAGATCACCATTAAGTATATTTTCCAATATTGGCAAGATTATCA
 GAGAATTTTCATCTTTATCTATCTAGGTTTAGAATTTTTACTGAAGTAGAAGTAGTCTA
 TAAGCCACTGCTAATTATGTGGCAGCTATTTCTATATGTGTGCTCGTTGGTGTGCTG

FIGURE 4 (continued)

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TGTTCCCATTTGTCGCAATTTGTTAACTGGATATATAGAGTAAAGACAATCAGATCTATG
AGCGGCATAACCGGAGAAAATATTTCTGTTCCCGATGAAATACCCCTACAATTACCAAAT
GATGACATTTTGGGCAGGTTTACGTGGTGTCTGTTGGTGTGCGCTTGGCGTTGGGAATTC
AAGGTGAGTATAAGTTCACTTTATTGGCAACGGTCCTTGTGTTGTTGTTTAAACAGTT
ATCATTTTGGGGGCACACTGTCAGGAATGTTAGAAGTTTAAATATTAAGACTGGTTG
CATAAGTGAAGAAGATACATCTGATGACGAGTTTGATATAGAGGCTCCAAGGCGATAA
ATTTATTGAACGGTAGTTCTATTGACACAGATTGGGCCCATATTCTGACAACAATTC
CCAGATATTTCAATTGACCAATTCGCGGTGACGAGTAACAAGAATCTCCCAATAACAT
ATCCACAACCTGGTGGTAATACTTTTGGAGGCCCTTAATGAACTGAGAATACTAGCCCTA
ACCCGGCAAGGTCTTCTATGGATAAGCGTAATTTGAGAGATAAACTGGGAACAATCTTT
AATCCGACTCACAATGGTTTCAAAATTTGATGAACAGGTATTGAAGCCAGTATTCTT
GGACAACGTTTCTCCATCCTTACAAGATTGGCTACGCAATCACCTGCAGATTCTCTT
CCCAAACCACTAG

SEQ ID NO 24: *Saccharomyces cerevisiae* protein

MLSKVLLNIAFKVLLTTAKRAVDPPDDDELLEPSPDLPGSDDFIAGDPDVLNPNVTEBMF
SSWALFIMLLLLISALWSSYYLTQKRIRAVHETVLSIFYGMVIGLIIRMSPGHYIQDTV
TFNSSYFFNVLLPFIILNSGYELNQVNFNMLSLIFAIPTGTFISAVVIGIILYIWF
LGLESIDISFADAMSVGATLSATDPVTILSIFNAYKVDPKLYTIIIFGESLLNDAISIVM
FETCQKFHGQPATFSSVFEGAGLFLMTFSVLLIGVLIGILVALLKHTHIRRYPQIES
CLILLIAYESYFFSNGCHMSGIVSLLFCGITLKHYYNMSRRSQTIKYIFQLLARLS
ENFIFIYLGLELFTVELVYKPLLIIVAAISICVARWCAVFPFSLQFVNWIYRVKTIRSM
SGITGENISVPEIIPYNYQMMTFWAGLRGAVGVALALGIQGEYKFTLLATVLVVVLT
IIFGGTTAGMLEVLNLIKTCISEEDTSDDEFDIEAPRAINLLNGSSIQTDLGPFYSDNNS
PDISIDQFAVSSNKNLPNNISTTGGNTFGGLNETENTSPNPARSSMDKRNLRDKLGTIF
NSDSQWFQNFDEQVLKPVFLDNVSPSLQDSATQSPADFFSSQNH

SEQ ID NO 25: *Magnaporthe grisea*

ATGACTTTGATATCGCCGGCAACCTCCTGGAGCTCACCAGGCGCGCTGCGGAGGAACC
CGAACCTGGAGGAATGGCAGTTGGCCTTGCCCTGCGAGTGTGCGCGTATGACTCC
AGGACCTCGTCAGCTTCGATTACCAAATCTTCTCAACCTCCTCCTCCACCCATCATC
CTCTCGTCCGGCTACGAGTTACATCAGGCCAATCTCTCCGGCACATCGGAACAATTC
CACGTTGCGATTTGCTGGCACGTTCTGTCTGCAGTAGTCATCGGTGTTACTATGGC
TTTACACTCGCGTACCCCTCGAGGGGCTCACCATGAACGGATCGATGCCATATCTGTT
GGCGCAACTTTGTCAGCTACCGATCCTGTACCATCATAGCCATCTTCAACTCGTACAA
GGTGGACCCGAAGCTGTATACCATCATCTTTGGAGAGGCCATCTCAATGACGCTGTGG
CCATTGTCATCTTCGAGTCGGCGCAAAAGTCCGCCAGGGGCTTGACCAAAGGCAGCGCT
GCTGGCATCTCTACCTTCTTCTGGGGTTTCTGGATTTTCTTGAGGGACTTCTTCGGCAG
CTTGTTCATCGGGGCGCTTCTTGGCATCCTCACCAGCGCTCATGCTCAAGTACACGTACC
TCAGGAGGTTTCCCAAGCTGGAGAGCTGCTTGATTGTGCTTATTGCTTACGCCACGTAC
TACTTTTCCAGGCCATACATGTCCTGGAATTGTGTCACTGTTGTTCTGCGGAATCAC
ACTCAAACACTATGCATACTTCAACATGTGCGGAAGAACTCAGCTTACGACCAAGTACA

FIGURE 4 (continued)

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TGTTCCAGGTCTCGCACAACTGTCTGAGAACTTTATCTTTATTTACCTGGGTGTTTCC
 CTCTTTACGGACAAGGATCTCCAGTTCCAGCCCCCTCTCATTTGTCACTGTCTATGGC
 GGTGTGCGCAGCTCGCTGGGTTGCGGTATTCCCACCTCTCGTGGGCCATCAACTGGTTCC
 ACAAGTACCGGGCAGAAAGACGTGGCATCAAGAACGTGCCGAGGAGCTGCCGTACAAG
 TACCAAGGCATGCTGTTCTGGGCAGGGTTGCGTGGAGCGGTGCGTGTGCCCTGGCCGC
 GTTGTGTACGGCCAAGGACCACCGTGCAATTCAAGGCGACCGTTCTGGTTGTGGTGGTGC
 TCACGTGCATCATATTGTTGGCACTACGGTCAACGTGCTTGAATCCTCGAGATCCGC
 ACGGGAGTGACGGATGAGATCGATTCTGACGATGAATTCGACATCGAGGCAGTTGGGGG
 CTACTACAAGCGATCGGGTAACGGAATAGGTTATAGCCCGGCCGGCGCAATGCTGTTG
 TGCCCCTGACACACGTCAGGTCCGAGACGTGACAGTAATGGCGCGCTCGGTGGAAGA
 GACGCGAGCGGCTGGAGCTCAGGACATAGATCTCCCTTGAGTGCGGCAAGGCCTGGCAG
 TCTCGTCCGTACAGGTCACACGCGAAGACGCGAAAGACTGGACCTCCTTGGCAACC
 CGGGCGGCTCGACAGACTCGGATGACTTTGGGAGCGACATTGACACGTGCGACCTGCCG
 CCACCGCCCTTAGGAGACGATCCAGCCCAATGCCCTACGGCGACGAAGAGGCAGC
 TGGTTTGCAGCGGGGGGAGCAGGACAAGGTCGAACACAGAGACGGGTGGCTTGTCCG
 CCACGGCCGCGATCCGCCAGCTGTTTACGACCGGAGACCCAAACAGCCCTTTCAGGCAG
 CTGGACGAGGACTACATCAAACCGAAGCTACTGCTCGATGGCGGTGCCGGCCGTGGAA
 CGGTGTTGGCGCTGGCGGATCGAGTTAG

SEQ ID NO 26: *Magnaporthe grisea* protein

MTFDIAGNLLLELRRAAEEPEPGMAVGLALRVFAVDGLQDLVSFDYQIFNLLLPPII
 LSSGYELHQANFFRHIGTILTFAGTFLSAVVIGVILWLYTRVPLEGLTMNWIDAI
 SVGATLSATDPVTIIAIFNSYKVDPKLYTIIIFGEAILNDAVAIVIFESAQKSARGLT
 KGSAAGISTFFWGFWIFLDRFFGSLFIGALLGILTALMLKYTYLRRFPKLESLIVLIA
 YATY YFSQA IHMSGIVSLLFCGITLKHAYFNMSRRTQLTTKYMFOVLALQSENFI
 FYLGVSLFTDKDLQFQPLLIIVTVMAVCAARWVAVFPLSWAINWPHKYRAERRGI
 KNPBELPYKYQGMLEWAGLRGAVGVALAALLTAKDHRAFKATVLVVVVLTVIIFG
 GTTVNVLEILEIR TGVTEIDSDDEFDIEAVGGYKRSNGNIGYSPAGRNGVPLDTRP
 RRRRDSNGAVGGR DASGWSSGHRSPLSAARPGSLVRTGSTREAEERLDLLGNP
 GGSTDSDDFGSDIDTSDLP PPAPRRRSSPMPPTGDEEAAGLPAGGSRTSNTET
 TGGLSATAAIRQLFSTEDPTALFRQLDEDIYKPKLLLDGGAGRGNGGGAGGSS

SEQ ID NO 27: Prolamine promoter

CTTCTACATCGGCTTAGGTGTAGCAACAGACTTTATTATTATTATTATTATTATT
 ATTATTTTACAAAAATATAAAATAGATCAGTCCCTCACCACAAGTAGAGCAAGTGGTG
 AGTTATTGTAAAGTTCTACAAAGCTAATTTAAAGTTATTGCATTAACTATTTCATAT
 TACAAACAAGAGTGTCAATGGAACAATGAAAACCATATGACATACTATAATTTGTTTT
 TATTATTGAAATTATATAATTCAAAGAGAATAAATCCACATAGCCGTAAAGTTCTACAT
 GTGTGTCATTACCAAAATATATATAGCTTACAAAACATGACAAGCTTAGTTGAAAAAT
 TGCAATCCTTATCACATTGACACATAAAGTGAGTGATGAGTCATAATATTATTTCTTT
 GCTACCCCATCATGTATATATGATAGCCACAAAGTTACTTTGATGATGATATCAAGAAC
 ATTTTATAGGTGCACCTAACAGAATATCAAATAATATGACTCACTTAGATCATAATAGA

FIGURE 4 (continued)

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GCATCAAGTAAACTAACAACCTCTAAAGCAACCGATGGGAAAGCATCTATAAATAGACAA
GCACAATGAAAATCCTCATCATCTTCACCACAATTCAAATATTATAGTTGAAGCATAG
TAGTA

SEQ ID NO 28: Ubiquitin promoter without first intron

GATAATGAGCATTGCATGTCTAAGTTATAAAAAATTACCACATATTTTTTTTGTACAC
TTGTTTGAAGTGCAGTTTATCTATCTTTATACATATAATTAACTTTACTCTACGAATA
ATATAATCTATAGTACTACAATAATATCAGTGTTTTAGAGAATCATATAAATGAACAGT
TAGACATGGTCTAAAGGACAATTGAGTATTTTGACAACAGGACTCTACAGTTTATCTT
TTTAGTGTGCATGTGTCTCCTTTTTTTTGCAATAGCTTCACCTATATAAATACTTCA
TCCATTTTATTAGTACATCCATTAGGGTTAGGGTTAATGGTTTATAGACTAATTT
TTTTAGTACATCTATTTTATTCTATTTTAGCCTCTAAATTAAAGAAAATAAACTCTAT
TTTAGTTTTTTTATTTAATAATTTAGATATAAAATAGAATAAAATAAAGTGAATAAAA
TTAAACAAATACCCCTTAAGAAATTAATAAACTAAGGAAACATTTTCTGTTCGAG
TAGATAATGCCAGCCTGTAAACGCCGTCGACGAGTCTAACGGACACCAACCAGCGAAC
CAGCAGCGTCGCGTCGGGCCAAGCGAAGCAGACGGCACGGCATCTCTGTCGCTGCCTCT
GGACCCCTCTCGAGAGTTCCGCTCCACCGTTGGACTTGCTCCGCTGTGCGCATCCAGAA
ATTGCGTGGCGGAGCGGCAGACGTGAGCCGGCACGGCAGGCGGCCTCCTCCTCTCTCA
CGGCACGGCAGCTACGGGGGATTCTTTCCACCGCTCCTTCGCTTTCCCTTCTCGCC
CGCCGTAATAAATAGACACCCCTCCACACCTCTTTCCCAACCTCGTGTGTTTCGGA
GCGCACACACACAACAGATCTCCCCAAATCCACCGTCGGCACCTCCGCTTC

SEQ ID NO 29: prm3122 (sense, AttB1 site in *italico*)

GGGGACAAGTTTGTACAAAAAAGCAGGCTTCACAATGGGGATGGAGGTGG

SEQ ID NO 30: prm3123 (reverse, complementary, AttB2 site
in *italico*)

GGGGACCACITTTGTACAAGAAAGCTGGGTGCACGTTCATCTTCCTCC

FIGURE 4 (continued)

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